

METHOD AND APPARATUS FOR CHEMICAL MECHANICAL PLANARIZATION

ABSTRACT OF THE DISCLOSURE

5 An invention is provided for a chemical mechanical planarization apparatus. The apparatus includes a cylindrical frame, a polishing membrane attached to an end of the cylindrical frame, and a pad support disposed within the cylindrical frame and below the polishing membrane that is capable of differentially flexing the polishing membrane. The pad support can be air bearing that provides air pressure to the polishing membrane to
10 differentially flex the polishing membrane during a CMP process. In a further aspect, the pad support can be in contact with the polishing membrane, and include mechanical elements that are capable of differentially flexing the polishing membrane during a CMP process. In addition, the apparatus can include a conditioner element disposed above the polishing membrane, and a conditioner pad support disposed below the polishing
15 membrane and the conditioner element, wherein the conditioner element is capable of eroding the polishing membrane.